This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A method of processing a plurality of Z-vectors, each Z-vector including Z elements, each element including K bits, where Z is a positive integer greater than 1 and K is a positive integer, the plurality of Z-vectors corresponding to a binary codeword, portions of said binary codeword having a direct mapping relationship to a plurality of transmission units, said plurality of Z-vectors being stored in a set of D memory arrays, where D is an integer greater than zero, each memory array including Z rows of memory locations, each memory location of a row corresponding to a different array column, each array column corresponding to a different one of said plurality of Z-vectors, each Z-vector identifying one column in each of said D memory arrays, the method comprising:

generating a series of sets of control information, each set of control information including:

i) a Z-vector identifier;

ii) a row identifier; and

for at least one generated set of control information:

reading P times K divided by D bits, where P is a positive integer, from each column identified by the Z-vector that is identified by the Z-vector identifier included in said at least one generated set of control information;

wherein said method of processing is used to process received transmission units; and

wherein K is an integer greater than zero and is a number of bits used to represent a soft value corresponding to one bit of said binary codeword.

Claim 2 (original): The method of claim 1,

wherein said method of processing is performed by a transmission device prior to transmission of said transmission units;

wherein D is 1; and

wherein K is 1.

Claim 3 (original): The method of claim 2, further comprising:

for said at least one generated set of control information:

generating from said P bits read from memory, a portion of the transmission unit identified by the transmission unit identifier included in said at least one generated set of control information.

Claim 4 (currently amended): ~~The method of claim 3,~~ A method of processing a plurality of Z-vectors, each Z-vector including Z elements, each element including K bits, where Z is a positive integer greater than 1 and K is a positive integer, the plurality of Z-vectors corresponding to a binary codeword, portions of said binary codeword having a direct mapping relationship to a plurality of transmission units, said plurality of Z-vectors being stored in a set of D memory arrays, where D is an integer greater than zero, each memory array including Z rows of memory locations, each memory location of a row corresponding to a different array

column, each array column corresponding to a different one of said plurality of Z-vectors, each Z-vector identifying one column in each of said D memory arrays, the method comprising:

generating a series of sets of control information, each set of control information including:

i) a Z-vector identifier;

ii) a row identifier; and

for at least one generated set of control information:

reading P times K divided by D bits, where P is a positive integer, from each column identified by the Z-vector that is identified by the Z-vector identifier included in said at least one generated set of control information;

wherein said method of processing is performed by a transmission device prior to transmission of said transmission units;

wherein D is 1;

wherein K is 1;

for said at least one generated set of control information, generating from said P bits read from memory, a portion of the transmission unit identified by the transmission unit identifier included in said at least one generated set of control information;

wherein said plurality of Z-vectors includes n of said plurality of Z-vectors, where n is a positive integer greater than 1; and

wherein generating a series of sets of control information further includes:

incrementing a Z-vector identifier value by n divided by M, where M is the number of portions of

the transmission unit having a direct mapping relationship to a portion of the binary codeword said portion of the binary codeword including M times P bits.

Claim 5 (original): The method of claim 4, wherein each portion of a transmission unit is a symbol; and wherein the transmission unit is a dwell.

Claim 6 (currently amended): The method of claim 3, wherein generating a series of sets of control information further includes:

incrementing the z-vector identifier value M times;

after incrementing the z-vector value M times:

i) resetting the ~~Z~~ z-vector identifier value to the z-vector identifier value existing at the start of said incrementing; and

ii) incrementing a row identifier value by P.

Claim 7 (previously presented): The method of claim 6, wherein generating a series of sets of control information further includes:

after incrementing the row identifier value Z divided by P times, where Z divided by P times is an integer,

setting the row identifier value to zero; and

incrementing the Z-vector identifier value by a preselected positive integer value.

Claim 8 (original): The method of claim 7, wherein said preselected positive integer value is one.

Claim 9 (original): The method of claim 2, wherein said binary codeword is a low density parity check codeword.

Claim 10 (canceled):

SWD Claim 11 (original): The method of claim ~~10~~ 1, where D is equal to K or 1.

Claim 12 (original): The method of claim 11, further comprising:

for said at least one generated set of control information:

supplying the P bits read from memory to a demodulator.

SWD Claim 13 (previously presented): The method of claim ~~10~~ 1, further comprising:

for said at least one generated set of control information:

generating, from said P bits read from memory, a portion of the transmission unit identified by the transmission unit identifier included in said ~~each~~ generated set of control information.

Claim 14 (previously presented): The method of claim 13,

wherein said plurality of Z-vectors includes n of said Z-vectors, where n is a positive integer greater than 1; and

wherein generating a series of sets of control information further includes:

incrementing a Z-vector identifier value n divided by M, where M is the number of portions of the transmission unit having a mapping relationship to a portion of the binary codeword said portion of the binary codeword including M times P bits.

Claim 15 (previously presented): The method of claim 13, wherein generating a series of sets of control information further includes:

incrementing a row identifier value by P

incrementing the Z-vector identifier value M times;

after incrementing the Z-vector value M times:

i) resetting the Z-vector identifier value to the Z-vector identifier value existing at the start of said incrementing; and

ii) incrementing a row identifier value by P.

Claim 16 (previously presented): The method of claim 15, wherein generating a series of sets of control information further includes:

after incrementing the row identifier value Z divided by P times, where Z divided by P times is an integer,

setting the row identifier value to zero; and

incrementing the Z-vector identifier value by a preselected positive integer value.

Claim 17 (original): The method of claim 16, wherein said preselected positive integer value is one.

Claim 18 (currently amended): The method of claim 1 ~~10~~, wherein said binary codeword is a low density parity check codeword.

Claim 19 (currently amended): An apparatus for processing a plurality of Z-vectors, each Z vector including Z elements, each element including K bits, where Z is a positive integer greater than 1 and K is a positive integer, the plurality of Z vectors corresponding to a binary codeword, portions of said binary codeword having a direct mapping relationship to a plurality of transmission units, said apparatus comprising:

memory including a set of D memory arrays for storing said plurality of Z-vectors, where D is an integer greater than zero, each memory array including Z rows of memory locations, each memory location of a row corresponding to a different array column, each array column corresponding to a different one of said plurality of Z vectors, each Z-vector identifying one column in each of said D memory arrays;

memory access control module for generating a series of sets of control information, each set of control information including:

i) a Z-vector identifier;

ii) a row identifier; and

means for reading P times K divided by D bits, from said memory, where P is a positive integer greater than zero, from each column identified by the Z-vector that is identified by the Z-vector identifier included in at least one generated set of control information; and

wherein K is an integer greater than zero and is a number of bits used to represent a soft value corresponding to one bit of said binary codeword.

Claim 20 (original): The method of claim 1,
wherein D is 1; and
wherein K is 1.

Claim 21 (previously presented): The method of claim 19, wherein said memory access control modules includes:
a first counter for generating said Z-vector identifier; and
a second counter for generating said row identifier.

Claim 22 (currently amended): A machine readable medium comprising machine executable instructions for controlling a computer device to process a plurality of Z-vectors, each Z-vector including Z elements, each element including K bits, where Z is a positive integer greater than 1 and K is a positive integer, the plurality of Z-vectors corresponding to a binary codeword, portions of said binary codeword having a direct mapping relationship to a plurality of transmission units, said machine executable instructions including instructions used to control the computer device to:
generate a series of sets of control information, each set of control information including:
i) a Z-vector identifier; and
ii) a row identifier; and
for at least one generated set of control information:

read P times K divided by D bits, where P is a positive integer greater than zero, from each column identified by the Z-vector that is identified by the Z-vector identifier included in said at least one generated set of control information; and

wherein K is an integer greater than zero and is a number of bits used to represent a soft value corresponding to one bit of said binary codeword.